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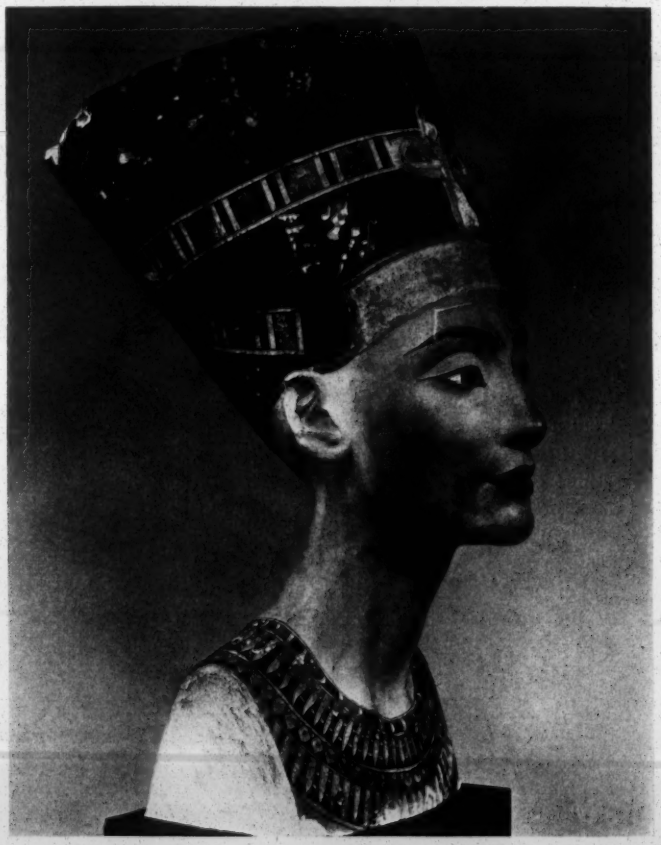

METROPOLITAN MUSEUM OF ART

ABOUT 1370 B.C. AN UNKNOWN SCULPTOR FAITHFULLY "CAUGHT" THE SWAN NECK AND EXPRESSIVE EYES OF NEFRET-ITY, QUEEN OF EGYPT (Bulletin No. 1)

Bulletin No 1, April 25, 1949

"Khamsin" Brings Spring to Egypt

IN EGYPT the farmers and townspeople are now enjoying the season of the *khamsin*, the "wind of the fifty days." During March and April this warm, dusty breath from the desert blows the promise of spring north as far as Cairo and Alexandria. In more southerly parts of Egypt the khamsin means sandstorms, but when it reaches the great Nile delta, where most Egyptians live, only the blessing usually is left.

When the khamsin comes, city folk know that the not-too-mild winter is over. Cairo occasionally has touches of snow and, because of its lack of heating, its winters are sometimes worse than temperatures would indicate. The warm wind of spring lures the townspeople outdoors to "smell the breeze," literal translation of Arabic words meaning "to picnic."

Nile Valley Tilled Since 5,000 B.C.

But for the *fellahin*, the nearly two-thirds of the Egyptians who farm the fertile delta and the strip along the Nile River, the khamsin is a harbinger of something much more important. When the wind stops blowing, the river starts rising in its annual life-giving flood. Because of the dams and barrages which control the Nile, the flood does not have the epic proportions of previous ages when the entire valley was inundated for weeks. Today, by gradually releasing the waters the year round, three crops can be raised on the same plot. Formerly the natural irrigation of the uncontrolled flood allowed only one crop a year.

Since 5,000 B.C. farmers have been tilling the rich silt of the Nile Valley. Egypt, ancient and modern—whatever its boundaries—is truly called the "gift of the Nile." On each side of the narrow valley barren deserts stretch away to the boundaries of the country. Modern Egypt is like a yellow box tied with the green ribbon of the river and knotted at the Mediterranean with the fancy bow of the delta.

Nothing but the ribbon and the bow is important. All Egypt adds up to 386,000 square miles—about the size of Texas and New Mexico together. But of its 19,000,000 inhabitants, all but about a million and a half live along the river in an area equal to Maryland (10,577 square miles). The Nile Valley averages 12 miles wide. Its farms are nearly all less than five acres and many are smaller than one acre. Population density reaches 1,500 per square mile in some areas.

The farmers live in villages of mud-brick huts. The river even supplies the mud for bricks. Many villages are built on the desert at the edge of the valley where they will cover none of the productive soil. Long-fibered cotton is the chief crop. The land is so fertile and agriculture so much like gardening that one acre returns two and a half bales of cotton. The United States average is one bale per acre.

Many fellahin are landless and work as laborers for other farmers. A *fellah* born without land stands little chance of acquiring any.

ENTERED AS SECOND CLASS MATTER APRIL 27, 1943, POST OFFICE, WASHINGTON, D. C., UNDER ACT OF MARCH 3, 1879.
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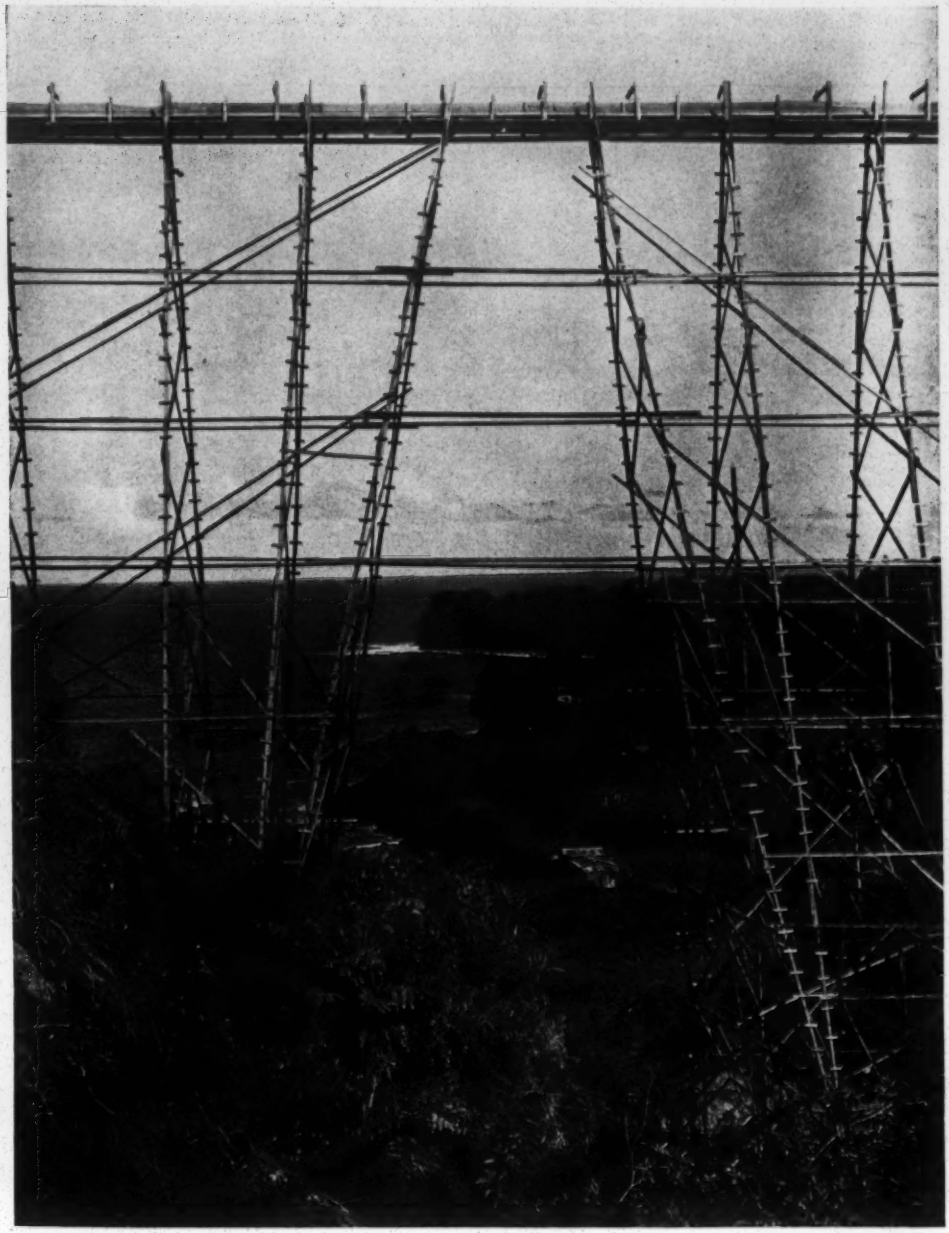

W. ROBERT MOORE

LIKE A GIANT ROLLER COASTER, A TALL FLUME CARRIES CANE FROM PLANTATION TO SUGAR MILL

Across deep gulches, densely overgrown with palm trees and the many tropical plants that flourish in the Territory of Hawaii (Bulletin No. 2), this high flume carries bundles of sugar cane from mountain plantation to the sea. Road building in this rugged region of the Island of Hawaii is far too expensive to permit the use of trucks which transport cane in lower areas. Water rushing down the narrow wooden channel carries the crop along at a rapid pace.

Hawaii Would Add Tropic Star to Union

SHOULD Congress make Hawaii a state, a star of considerable dimensions would be added to the blue field of the union. With an area of nearly 6,500 square miles, the Territory of Hawaii is larger than three present states—Connecticut, Delaware, and Rhode Island. Except for Oklahoma, its population of more than half a million is larger than that of any state at the time of admission. The percentage of Hawaii's people who pay federal income taxes is greater than that in 26 states.

In wealth and economic importance, the islands outrank several states. Oahu, third island in size, is first in population, commerce, and industry. More than two-thirds of the territory's residents live there. Of these, half live in Honolulu, capital and chief city and for a century one of the busiest ports of the Pacific.

Sugar Tops the Islands' Business

Honolulu has seen the islands' commerce run through a succession of industries from sandalwood to sugar. Until the sandalwood supply was exhausted, Hawaii's kings and chiefs made fortunes in the early 19th century. In the 1840's and '50's, whaling fleets on two-year voyages to Alaska waters came to Honolulu for supplies of food and water, and to transship their catch. By the time petroleum production had killed whaling, sugar was beginning to reign.

Sugar production (illustration, inside cover) has become the chief occupation of the islanders, with a normal annual export of more than a million tons. Pineapples come next in importance. A dozen large plantations truck their crops to nine canneries (illustration, next page). Coffee, hides, molasses, and fresh flowers are also exported.

Besides Oahu, seven sizable islands comprise the main group—Hawaii, Maui, Kauai, Molokai, Lanai, Niihau, and Kahoolawe. All are mountainous and of volcanic origin. Their interiors are for the most part heavily forested. Many of the wooded regions have been set apart as forest reserves to check soil erosion and protect the water supply.

Each island has a distinctive appearance. Hawaii, the "Big Island," is more than five times the size of the next-largest island. It has two active volcanoes—Mauna Loa, towering more than 13,000 feet above the sea, and Kilauea, 4,000 feet. The island's greatest attraction is a volcano in action. Eruptions are likely to occur every three or four years. Volcanologists can usually predict when activity will start, so there is almost no property damage and no loss of life. A volcano erupting in Hawaii is a festivity rather than a catastrophe.

Kauai's Waimea a Junior Grand Canyon

Maui is a double island, its two mountains connected by old lava flows. Gouged from the larger portion is the dormant crater of Haleakala, 21 miles in circumference. Kauai is believed the oldest island in the group. Its Waimea Canyon is like the Grand Canyon of the Colorado in its remarkable rock formations and brilliant coloring. One of the wettest spots on earth—

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Contrasting with the time-mellowed aspects of farm life, Egypt's cities are modern and Western-looking (illustration, below). The 30 per cent of Egyptians who live in cities dress like Westerners except for the *tarboosh*, the Egyptian-style fez with a side tassel.

In addition to the fellahin and the townspeople, the Bedouins make up a small but important group. They live in the desert. Some are settled permanently beside oases, but others move about with their flocks in true nomad style.

Most Egyptians are Sunnite Moslems, but the Christian faith is represented by a small minority. Eight per cent of Egyptians are Copts, adherents of an ancient Christian religion that lived through the Moslem conquest of Egypt in 641.

Egypt is the most ancient of lands (illustration, cover). The pyramids and the sphinx are symbols of its antiquity. The Romans and Greeks went to Egypt to marvel at the wonders of the past just as travelers do today. Geographically, the country is a meeting place, a crossroads, and its present population has little, if any, connection with the people who lived there in the time of the pharaohs.

NOTE: Egypt is shown on the National Geographic Society's map of Africa. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

See also, "American Fighters Visit Bible Lands," in the *National Geographic Magazine* for March, 1946 *; "American Alma Maters in the Near East," August, 1945 *: "Old-New Battle Grounds of Egypt and Libia," December, 1940; "By Felucca Down the Nile," April, 1940; "Change Comes to Bible Lands," December, 1938; and "Bedouin Life in Bible Lands," January, 1937*. *(Issues marked by an asterisk are included on a special list of Magazines available to teachers in packets of ten for $1.00.)*

B. ANTHONY STEWART

CAIRO'S TWO MILLION INHABITANTS MAKE IT THE MOSLEM WORLD'S GREATEST CITY

Williamsburg Preens for Eventful 250th Year

WILLIAMSBURG sees it coming—a record year for visitors. Virginia Garden Week in years past has often provided a gauge of how good Williamsburg's season would be. But far in advance of Garden Week, which runs from April 23 to 30 this year, the early spring has brought hordes of visitors.

Various special events are scheduled for 1949, the 250th anniversary of Virginia Colony's restored capital. Major new restoration—the first since World War II interrupted this work—will be open to view. The month of March made it apparent, however, that even without the many anniversary attractions, 1949 would be a banner year.

Thrived in 18th Century

Jamestown, 1607, was the first permanent English settlement in America. Seven miles inland, a small outpost known as Middle Plantation was established about 1633 as Jamestown's buffer against Indian attack. In 1699 the outpost was renamed Williamsburg in honor of William III. At that time it took over Jamestown's role as the seat of government of the Virginia Colony.

Virginia was then the largest, wealthiest, and most populous of the colonies. Its area included that of present-day Virginia, West Virginia, Kentucky, Ohio, Indiana, Illinois, Michigan, and Wisconsin. Colonial capital from 1699 to 1779, Williamsburg ranked with Boston, New York, and Philadelphia as a center of culture, commerce, and society.

Planters from all over the colony flocked to the capital when the courts or House of Burgesses were in session. Some owned town houses for use at such times. In the 1750-60 heydey which the restoration represents, 5,000 or more would crowd into the town of less than 2,000 inhabitants. A dozen visitors would find haven in one tavern bedroom.

Richmond became Virginia's capital in 1779, and Williamsburg lay forgotten by the outside world until 1927. Thus, many of its 300-odd colonial-period buildings were still standing when the Rockefeller-Goodwin program of restoration was undertaken.

Bruton Parish Church Stood Through the Years

Outstanding landmarks restored before the wartime interruption are the Governor's Palace, the Capitol, and the Raleigh Tavern. Fires at various times had destroyed the originals so that only foundations remained, but reconstruction was made possible by reference to documents preserved from the colonial period.

In fair shape so that they could be repaired and stabilized without complete rebuilding were the Bruton Parish Church, the Public Magazine, or "Powder Horn," the Public Gaol (jail), and three early buildings of William and Mary College, founded in 1693.

A Guard House for the Powder Magazine now rapidly nears completion. Standing together on the south edge of the Market Square, the two will constitute a new exhibit unit on the Williamsburg scene. The Russell

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the summit of 5,170-foot Mt. Waialeale—records a yearly rainfall of 40 feet. However, precipitation is so uneven that irrigation is necessary to grow the sugar cane, fruit, and vegetables for which the "Garden Isle" is famous. Molokai is best known for its leper settlement, a very small portion of the 260-square-mile island.

The airplane has brought Hawaii within 18 hours of Washington, D. C. Nearest of the group to the mainland (about 2,100 miles) is the name island, Hawaii. But the chain extends for nearly 2,000 miles northwest to Kure (Ocean). Except for the eight main islands, only Midway—a cable and airline station—is inhabited. All the others comprise a national bird sanctuary. Naturalists estimate that more birds live or call there than at any other bird colony in the world. The feathered population includes the frigate bird, Laysan canary, albatross, curlews, rails, and petrels, and many birds found nowhere else.

Contrary to a somewhat popular belief, the Hawaiian language is not easy to learn. Although the alphabet has only 12 letters—five vowels and seven consonants—the slightest inflection can change a meaning, and there are 20,000 words. W in Hawaiian is not pronounced like V except when it precedes the final letter of a word—which is always a vowel. For example, Ewa is Evva. English, of course, has been generally spoken since the arrival of the New England missionaries more than a century ago.

NOTE: The Hawaiian Islands appear on the Society's map of the Pacific Ocean. For additional information, see "Life on the Hawaiian Front," in the *National Geographic Magazine* for October, 1942; and "Hawaii, Then and Now," October, 1938 *; and in the GEOGRAPHIC SCHOOL BULLETINS, December 16, 1946, "Hawaii, Where Mountains and Flowers Flame."

HAWAIIAN PINEAPPLE COMPANY

ALMOST UNRECOGNIZABLE IN THIS INTERMEDIATE STAGE, PINEAPPLES MOVE TO THE SLICER

Their rough "hides" and cores removed by machine, pineapples travel along on a belt to these neatly uniformed girls. With sharp knives the girls deftly trim off any pieces of the outside skin which remain so that the pineapples will be tin-shaped before going through the slicer.

Bulletin No 4, April 25, 1949

Herring Lends Luster to Artificial Pearls

DRAPE the lowly herring around milady's neck to set off her finest frock?

That's what they are doing, and it has made the poor little fish (illustration, next page) bigger business with the jewelry trade than for the sardine packer who traditionally has put them in cans.

Strictly speaking, it is the scales of the young herring that are having a lucrative boom. This fact plainly was well known to the thieves who stole the entire stock of scarce "pearl essence" from a New England jewelry firm recently, but left its gold and cash untouched.

New Market Welcomed

Pearl essence, or pearl paste, has been made for centuries by many methods and in many lands. Usual source of its luster has been the silvery scales of small fish. Suspended in clear lacquer, it has pearl-like iridescence. Applied to glass or plastic beads, the substance makes them resemble natural pearls.

It was before the turn of the present century that chemists found the sardine herring had excellent scales for this purpose. New England fishermen welcomed the new market for scales, limited though it was. Norway's herring fleets supplied scales to German chemists who processed the pearl paste for customers in several countries.

A return to popularity for the pearl necklace has been well sustained for a dozen years. To untrained eyes the $10 artificial string may rival the $1,000 choker of cultured pearls from Japan or the $10,000 dog collar of matched natural pearls. Add the postwar rage for earrings and costume jewelry, note the many non-jewelry uses for mother-of-pearl effects, and it becomes plain why pearl essence is in heavy demand.

Norway as well as New England now has pearl-essence factories close to herring-fleet bases. Pound jars of the essence bring five times the 1937 price. Scales are collected from the bottoms of fishing boats, sifting through slatted floors as the fish are handled. Centrifuges play an increasing part in the delicate process of extracting lustrous crystals from the scales.

Essence Uses Increase

Because each bead must be carefully hand-dipped in the pearl lacquer, and because finishing, sizing, and matching involve much skillful hand work, labor is a major item in the necklace of pearls simulated this way. The best such necklaces may carry a price tag of close to a hundred dollars.

Aside from its part in fine artificial pearls, pearl essence finds use in the celluloid and plastics industries where mother-of-pearl effects are desired. It provides the pearl luster in many knife handles, fountain pens, and combs. It is mixed with molten glass to achieve decorative glass ornaments. It is an ingredient of artists' colors, and of some nail polishes.

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and Craig houses, near the Raleigh Tavern, are other new restorations.

Looking years ahead, architects' drawings are complete on no less than 50 structures to be added to the scene. Looking backward to the 1930's, about 600 non-colonial buildings were removed from the restoration area so that the spirit of former times could pervade the community without affront by such anachronisms as neon lights, gasoline pumps, and nondescript architecture.

In most buildings, interior furnishings are colonial, even to minute details. The whole scene has been rounded out with life and activity. Some 200 residents of today's Williamsburg community of 4,000 people daily don authentic costumes of 1750-60, and interpret for the visitors' benefit what the restoration represents.

NOTE: Williamsburg is shown on the Society's map of Southeastern United States.

For additional information, see "Tidewater Virginia, Where History Lives," in the *National Geographic Magazine* for May, 1942; "Restoration of Colonial Williamsburg," April, 1937; "Travels of George Washington," January, 1932; and "Virginia—A Commonwealth That Has Come Back," April, 1929.

EDWIN L. WISHERD

THE ST. GEORGE TUCKER HOUSE "JUST GREW" ON THIS WILLIAMSBURG CORNER

The site originally held the Williamsburg theater, built in 1716. Nearly three-quarters of a century later, St. George Tucker, "the American Blackstone," moved an old house to this lot, used part of the old theater, and added wings to create this harmonious house.

Idaho Atomic Plant near "Craters of Moon"

AT ARCO, Idaho, the weird and scarred wasteland created by ancient fires offers symbolic background for Uncle Sam's proposed new atomic testing center.

The region of extinct volcanoes known as the Craters of the Moon stretches just south of the site of the plant where scientists plan to probe deeper into the mysteries of nature's most potent forces.

Early Travelers Avoided the Spot

The region was named because of its resemblance to the desolate and pockmarked surface of the moon viewed by telescope. For thousands of square miles, north of the upper reaches of the Snake River valley, it unrolls forbidding vistas of twisted and ropy lava fields, of yawning blowholes, sun-baked craters and cinder cones, and chill caves where the ice never melts even in midsummer.

As late as the early 1920's few other than local Indians had ventured over the vaguely known and feared "Lava Beds of Idaho." Travelers avoided the spot in the southeast part of the state, believing it totally without water and vegetation. When serious explorers came this way they found the going rough and painful over the loose pebbles and sharp-edged rocks of long-cooled lava.

Their compensation was in the strange beauties of the wasteland, with its tall cones painted in desert blues, reds, browns, and black, its natural bridges of "frozen" lava; and its tunnels and caves decorated with fantastic stalactites and stalagmites. The early explorers, too, soon discovered that the crater land had its own sparse life—animals, birds, and plants. They found water in deep volcanic pits, craters, and cave pools.

In 1924 the United States government set aside 40 square miles of the region as the Craters of the Moon National Monument. Later the area was enlarged to 80 square miles. It contains more volcanic features than are found in comparable space anywhere in the United States, including the country's most recent example of fissure eruption.

Near Green Lands

Geologists conjecture that the fiery forces that cracked open the earth and threw up the boiling lava and rocks may have been active for thousands of years, and that the latest violence may have occurred only a few centuries ago.

Today irrigation water from the Snake River which rims the lava country has turned much of the near-by desert into green and fertile farmland. Modern dams, canals, and hydroelectric power have helped settle the valley through which pioneers once hurried on their way to California goldfields and Oregon homesites.

Pocatello and Idaho Falls—on the river about 70 and 65 miles respectively from Arco—are Idaho's second- and third-largest cities. However, Arco itself, where it is reported some 6,000 construction workers

Venetians were pioneers in the pearl-essence field. The terms "Venetian" and "Roman" pearls have long been in use.

W. ROBERT MOORE

FISHERMEN POUR HERRING INTO EMPTY "SWILLS" ON THE DOCK AT GREAT YARMOUTH, ENGLAND

These odd double baskets are used for unloading the boats and for carting the catch to the curing yards. Four swills make a "cran," the customary British measurement of fish. This port on the North Sea northeast of London has for years been a leader in Britain's herring industry.

Geographic Oddities and Briefs

Some of nature's creatures are bigger when young than as adults. The tadpole of an odd South American frog grows to be more than ten inches long. It then starts shrinking, until it turns into a frog that is only two to two and a half inches long when fully adult.

The frigate bird has the habits of a pirate. This odd-looking sea bird steals much of its food from other birds, forcing the victim to give up the prize by a literal "shakedown" twist from its powerful beak.

The Indians of Todos Santos, Guatemala, could pose for "Uncle Sam" cartoons. In their red and white striped trousers and blue jackets, the men of this isolated highland village lack only the familiar tall hat, preferring a more practical wide-brimmed version. The style is based on ancient designs characteristic of this village. Other remote hamlets in Guatemala also have their own distinctive costumes.

The ancient Egyptians were fond of music, using such instruments as harps, lyres, guitars, double and single pipes, and flutes. Professional musicians were admitted even into the homes of priests. Although the sounds produced were simple and unmelodic in terms of modern harmonies, the early musicians knew symphonic arts of mixing instruments and voices, as is shown by groupings in numerous paintings and sculptures of the period.

The British king is not allowed to enter the House of Commons. The prohibition dates back to 1642 when Charles I, long at odds with parliament, forced his way into the House in an attempt to arrest five leading members.

will soon be on the job, is a small community, with a population at the 1940 census of less than 600. The village is preparing for a boom. Real estate and other prices already have shot up. Even neighboring towns are being affected. The nearest settlement, Mackay, is about 30 miles to the northwest, inside the Lost River Range.

NOTE: Arco and the Craters of the Moon National Monument may be located on the Society's Map of Northwestern United States and Neighboring Canadian Provinces.

For additional information on the region, see "Idaho Made the Desert Bloom," in the *National Geographic Magazine* for June, 1944; and "Among the 'Craters of the Moon'," March, 1924.

R. W. LIMBERT

EXCEPT FOR AN OCCASIONAL STRUGGLING SHRUB, IDAHO'S LAVA LANDS ARE AS BARREN AS THE MOON

Two scientists stand on the red rim of an extinct crater and look across the volcanic desolation of Craters of the Moon National Monument. Here in a small space, as though grouped for the convenience of sight-seers, is a remarkable variety of volcanic phenomena. In short drives and walks visitors inspect cinder cones, lava cones, and spatter cones, view lava flows and lava tubes, and stand amazed beside lava bombs, tree molds, and pit craters.

The World's Ten Largest Lakes

Lakes are inland bodies of water. Sometimes they are called seas and sometimes they are filled with salt water, but they are still classified geographically as lakes. In square miles, the ten largest lakes in the world are as follows:

1. Caspian Sea * (U.S.S.R.-Iran)	168,890	6. Michigan (United States)	22,400
2. Superior (United States-Canada)	31,820	7. Tanganyika (Africa)	12,700
3. Victoria (Africa)	26,640	8. Baikal (U.S.S.R.)	12,150
4. Aral Sea * (U.S.S.R.)	24,600	9. Great Bear Lake (Canada)	12,000
5. Huron (U. S.-Canada)	23,010	10. Great Slave Lake (Canada)	11,170

*Salt water

Erie is number 12 and Ontario number 14. The five Great Lakes of North America form the largest body of fresh water in the world and the largest inland water transportation unit—1,160 miles.